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THE ZOOLOGIST:

A
POPULAR MONTHLY MAGAZINE
OF
NATURAL HISTORY
AND
JOURNAL FOR RECORDING FACTS & ANECDOTES
RELATING TO
QUADRUPEDS, BIRDS, REPTILES, FISHES, ANNELIDES,
INSECTS, WORMS, ZOOPHYTES, &c.

THEIR HABITS, FOOD, RETREATS, OCCASIONAL APPEARANCE,
MIGRATIONS, NESTS AND YOUNG.

No. CXXV.

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Proceedings of Natural-History Collectors in Foreign Countries.

Mr. H. W. Bates.* — "Aveyros, Rio Tapajos, August 1, 1852. — Although there is no conveyance from here safe enough to forward my collection, I profit by the opportunity of a small boat going to Santarem to write you an account of my proceedings, especially as I am in a rather out-of-the-way country now, and do not know when I shall have another opportunity to send a letter. I left Santarem, as in mine of the 6th of June I informed you I should, on the 8th of that month, and after a few hours' sail with a brisk wind, began to form something like a correct idea of this river. It is the most extensive and magnificent stretch of water I have seen in the whole river system of the Amazons. Like most of the other affluents, the Tapajos forms a delta of islands, alluvial and marsh lands, on its junction with the main river, by which the main channel flowing by Santarem is much contracted. I suppose there it is not more than 1 or 2 miles wide, but passing upwards, it expands into a breadth of from 8 to 10 miles, perhaps more, and continues thus for nearly a hundred miles, clear of islands; in fact, to a little below Aveyros. Both shores are marked by a line of hills, some isolated, others in long ridges, some conical, others truncated. This high country, generally covered with a uniform sombre forest, forms a picture very different from that of the alluvial flats and vivid green foliage of the banks of the Amazons. The winds here are strong and irregular, and the swell at times fearful. Sometimes a narrow margin of alluvial land skirts the banks, with beaches of white sand, forming lovely bays and harbours; but a great part consists of rock-bound coasts and precipices, at the foot of which the swell breaks with threatening roar. In fact, the voyage, instead of being a quiet slow excursion, like those we generally have on the Amazons, turned out a serious affair, full of peril and anxiety. I started in rather a critical season; the month of June being a transition season between the wet and the dry periods, the waters had not yet sunk many inches, and squalls, with thunder and lightning, occurred daily; at times, violent gusts came suddenly from the hills before sudden showers. In arranging my voyage, I found the usual difficulty in finding men. Indians only understand the management of canoes; and these are so few in number in comparison to the demand for them, that they are not to be found. The authorities only

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* Communicated by Mr. S. Stevens.

BRITISH MUSEUM

can assist a stranger, but these parties in Santarem are not at all obliging, and I was compelled to hire two mulattoes,—one, a coarse specimen from the South of Brazil, the other, a harmless young fellow of very little use to me. The bigger one proved a great annoyance. I soon found that he understood less of navigation than myself; but he was insolent, and would have his own way. Our first day's voyage was very inauspicious. We weighed anchor at Santarem at 8, A.M., after a good deal of trouble with the police-officers, who would not let this same fellow go until I had paid his debts. At about 2, P.M., the wind freshened, and the cable by which our small boat was secured, broke; the boat of course fell astern, and we put in-shore towards a small bay, between two cliffs, in order to cast anchor and wait until the boat came up with the wind. Into this bay rolled a tremendous swell, our vessel dragged its anchor, and we went ashore. It was a critical situation, but we kept the boat from bumping much by the aid of poles. The vessel is a stout-built one, and we were able to move out of the harbour about two hours afterwards, by the aid of our jib-sail, rounding a jutting ledge of rocks, with the wind nearly a-head. This was only one of the dilemmas we got into through bad seamanship; and on reaching Aveyros, where I had previously arranged to stop, I of course dismissed the men, and resolved not to move a step further without two or three good Indians.

"After our troubles on the first day's voyage, I stopped at a little village called Altar do Chaô, about 20 miles above Santarem, to prepare for a better start. Here we mended the sails, fixed new cords and ropes, arranged the cargo more conveniently, &c. There was excellent collecting-ground, and I stayed till the 17th. Although so near Santarem, the Entomology of this station was totally different, from the different nature of the forest and other local circumstances. The place is wonderfully picturesque; a small bay with white sandy shores, isolated hills about 800 feet high, of a truncated pyramidal shape, a winding creek running inland, a sloping grassy plain, upon which are placed the 80 or 100 palm-thatched huts forming the village, and a lofty varied forest, overrunning equally undulating plains and swelling hills in the back-ground. The Callitheæ, and the peculiar Erycinidæ of Santarem were absent; but there appeared a very great abundance and diversity of Erycinidæ of other groups, especially Mesosemiæ, Calospilus and Nymphidium, and of Satyri. I added some three or four new species to my list, besides half-a-dozen new Longicornes, and many new species of other groups of Coleoptera, especially of the genus Canthon, of which the prevailing species were quite new to me.

"I reached this town, Aveyros, on the 23rd of June, and have remained here busily occupied to the present time. It consists of only fourteen houses, but is the residence of the commandant of the district, whom I previously knew. The river here is strewn with islands, which divide its breadth into several channels; this breaks the force of the swell and the winds, and renders travelling about in small boats pleasant. The town is situated on a tract of low land, and the forest offers nothing peculiar in the prevailing trees &c. from other districts. From this cause, the great majority of the diurnal Lepidoptera are the same as those I have met with in other places: but the diversity of species, and profusion of insects generally, is greater than I have observed elsewhere. Some of the species are old Pará friends, such as Papilio Vertumnus and Sesostris, Epicalia ancea, Nymphalis Sthenelеs, two species of Heterochroa, one of Paphia, four of Ithomia, Leptalis locula, and a great number of the rarer Pará Erycinidæ. Others are the same as the Tocantins species, particularly the beautiful sharp-winged Papilio I had not yet met with except on the Tocantins. Many are the same as those of Obydos, particularly the Eurygonæ and Heliconia Melpomene. Two only are Ega species, — one, the Callithea Batesii (of which I have secured only one, a female, very perfect), and one of the rarest of the Ega Cybdeles. I have enumerated nearly 300 distinct species of diurnal Lepidoptera seen here, including of course those numerous species common everywhere. The new species are in Leptalis, Heliconia, Eresia, Heterochroa, &c., and in Eurygona, Calospilus, and other groups of Erycinidæ. In all the other orders the diversity is equally great, and the number of species new to me far greater than in butterflies.

"As to the blue and orange Megastomas, I never saw them *in copulâ* nor *in amoribus*. All I can say is, that they are in equal abundance in the same places, flying with vast rapidity, and settling upon old logs, edges of canoes, &c., by the water-side. *I* think they are male and female, especially as the blue appeared about fifteen days before the red; and I would recommend Mr. Westwood to look again and see if he cannot detect a few pairs of minute spines at the apical joints of the fore-tarsi in the red and not in the blue. I have no specimens here, and cannot therefore decide the question. The difference in the fore-legs of the sexes in Nymphalidæ I found out myself, several months ago, and have a long series of sketches made; it exists throughout the Heliconiæ and Satyri, of course the Erycinæ, and I think the Polyommati, from one species I have examined here.

"The large Morpho allied to Hecuba is found in most places, but everywhere excessively rare. It only appears in certain states of the weather, — gleamy weather in January, February, June and July, — and then only in places in the forest where trees have fallen, and rarely descends from its usual height of 15 to 20 feet. Here I have watched it till tired; a long pole won't do, you cannot strike with sufficient force and precision. Perhaps there are more than one species,—I have seen it at Pará, Satarem, Obydos, Ega, &c.

"I have been very busy here, as I collect everything that does not interfere with insect collecting. The commandant here has procured for me two good Indians, who are now making a palm thatch to my canoe, and in two days I am off to the river Cuparé, a branch river, which I hear is very rich; two dead shells of the Anastoma have been brought me from there. The country is everywhere hilly, but the elevation not more than 800 or 1000 feet. The season is approaching, too, of abundance in turtle, fish, &c., and I hope to meet with the Cybdeles, Callianiræ, Timetes, Papilios, Diorhinæ and Megastomas of the Ega district on margins of rivers, as now is the season. Here I have found only one Cybdelis, one common Timetis, the common brown Charaxes? and Papilio Protesilaus, amongst the cloud of yellows on the river margin.

"H. W. Bates."

Occurrence of the Reddish-gray Bat (Vespertilio Nattereri) *in Suffolk.*—As the Editor of the 'Zoologist' some time ago requested from his correspondents communications respecting the bats of this country—a request, by the way, which has not been productive of any great visible effect, since for the last two years they seem to have totally ignored the existence of such animals,—I make no apology for saying that an adult male specimen of the reddish-gray bat (*Vespertilio Nattereri*) was obtained by one of my brothers from a hole in a wall here, on the 5th of July last. I had never to my knowledge seen this species here previously, nor am I aware that its occurrence in Suffolk has hitherto been recorded, although it might have been almost safely presumed, from the circumstance of its having been met with in all the other eastern counties, in which alone, singularly enough, it seems to have appeared.—*Alfred Newton; Elveden Hall, Thetford, February* 15, 1853.

Captures of various Birds in Oxfordshire.—An immature specimen of the gray phalarope was killed on Port Meadow, close to Oxford, early in last September, and another in fine adult winter plumage in the latter part of December, 1852. A specimen of Temminck's stint was killed on Port Meadow in September, 1852. Whilst snipe-shooting near Abingdon in November, we flushed a specimen of the spotted crake (*Crex Porzana*), which my companion shot, and gave to me. Another specimen of this bird was killed a few days afterwards by a friend of mine, not far from the place where we found the first. I have seen two or three peregrine falcons in the neighbourhood of Oxford lately. I shot a specimen of the green sandpiper (by no means a common bird about here) in Port Meadow, on Wednesday last, the 2nd of this month.—*T. L. Powys; Christ Church, Oxford, February* 4, 1853.

"*On the present season in relation to the Migration of Birds, and other Natural Phenomena.*"*—Dr. Forster commences a letter to the Linnean Society, bearing the above title, by referring to a passage in White's 'Natural History of Selborne,' where it is remarked that the swallow-tribe, and particularly the martins, must suffer great devastation in the course of their winter migrations, inasmuch as, in certain seasons "the numbers of single birds which return in the spring bear no manner of proportion to those who retire in autumn." Dr. Forster's Journal, now of forty years' standing, shows that this disproportion is greatest in late springs, particularly when accompanied with much wet and windy weather. The present season has been especially remarkable. After a winter, the mildest ever remembered in Belgium, the spring was cold and showery, and nearly all the periodical phænomena were later than usual; while many tribes of plants suffered severely from some obscure atmospherical influence, apparently referable to the same class of causes which produce epidemics in the human subject and epizooties among animals. The Hyacinthus plumosus died off in most gardens, and also the Muscari racemosus. As soon as the flowers showed themselves the stock began to wither and in a few days died away, whole beds going off in the same way. Great numbers of tulips perished in the ground; the leafing of trees was very late; and the mulberry had not at the date of the letter shown any signs of budding. The swallow (*Hirundo rustica*) arrived on the 18th of April, and had become pretty numerous. The swift (*Hirundo Apus*) came on the 7th of May, in less numbers than usual. Dr. Forster had not yet (on the 21st of May) seen the sand-martin (*Hirundo riparia*), which is usually found in April; and even of the martin (*Hirundo urbica*), usually plentiful at Bruges in the first week of May, the most careful search had not enabled him to detect a single bird. The nightingale and black-cap came to their time, but the gray wag-tail was not seen until the day of the date of the letter. The remarkable scarcity of flying insects, the usual food of the swallows, caused them to seek for other species, and a naturalist of the neighbourhood had assured Dr. Forster that he saw them hunting for their prey on walls and trunks of trees, like the creeper, a fact which Dr. Forster considers as tending to support his opinion of the reasoning powers of animals. Up to this time the cockchafer (*Melolontha vulgaris*), although usually abundant, had not made its appearance; nor had another constant inhabitant of the gardens, Buprestis nitens, yet been seen. The large black cockroach had increased to an alarming extent in many of the old houses and on the premises of the bakers. Some foreign newspapers had erroneously spoken of the weather as fine in Belgium, but there had been only three tolerably fine days since the 21st of March, and the average temperature since the 25th of that month had been 8° Fahr. below the mean.—*From the Proceedings of the Linnean Society, May* 21, 1851.

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* In a Letter from Thomas Forster, Esq., M.B., F.L.S., dated from Bruges, May 21st, 1851.

Swallows in November.—On the 10th of last November I saw about twenty house-martins (*Hirundo urbica*) under the cliff above Kemptown, Brighton—the day warm and wind S.E. They were sporting about as if it had been the middle of summer. Vast numbers of flies are generated in the decaying sea-weed on the beach, which would afford plenty of food. Previously to the departure of the great body of the swallows, about the end of September or beginning of October, the roofs of the houses in Arundel Terrace, the last houses east of Brighton, are covered with them, but I have never met with any one (and I have asked many of the men on the Coast Service), who has actually seen them take their departure. They are said never to leave when the wind blows in the direction of their flight, but that they select a light wind blowing against them, to avoid the ruffling of their feathers.—*R. Wakefield; 11, Sussex Place, Regent's Park, February* 5, 1852.

Supposed occurrence of a specimen of the Severn Swallow (Hirundo bicolor, *Vieill.*), *at Derby, in* 1850.—The notice of the supposed occurrence of the rufous swallow at Penzance (Zool. 3753), reminds me that I ought not any longer to delay recording in your pages, the supposed appearance of an individual of an American species of swallow at Derby, in 1850. I say *supposed* appearance, because, though I have not much doubt that the bird was really shot at Derby, there is nevertheless quite a possibility of mistake. Some months ago, my friend, Mr. John Evans of Darley Abbey, sent for my inspection, and afterwards kindly presented to me, the skin of a sort of swallow whose name he had not been able to ascertain, of which he gave me the following account:—One day that he called at the shop of Mr. Cooke, a bird-stuffer and museum-keeper in Derby, in the summer of the year 1850, he was shown the skin of a bird which had lately been shot at the Siddals (the name of some common land, I believe, in the suburbs of Derby), with eleven sand-martins, with which this had been considered to make a twelfth; in skinning them, Mr. Cooke had remarked that it was not like the others, and he thought it a variety, but asked Mr. John Evans his opinion about it. That gentleman did not know what it was, but he bought the skin for one shilling, and has had it in his possession from that time till he gave it to me some months ago, as I mentioned before. Mr. Cooke is since dead. The circumstance of his having skinned the birds himself, makes it appear improbable that he should have made a mistake, and Mr. John Evans assures me that he does not think there were any foreign skins about. I should add, that I believe there is no possibility of error since the skin came into Mr. John Evans' possession. The bird now before me is very like the house-martin, and not much like the sand-martins in whose company it was said to have been found. When compared with the former bird, the only difference seen at first is the continuous dark colour of the back, instead of there being white over the tail. On a further examination, the legs are found to be quite naked below the knees, instead of downy, as in our martin. These characters are I believe sufficient to refer it to the well-known American species called Hirundo (or Chelidon) bicolor, and I find my skin to agree with the several specimens of it in the British Museum. It is useless to give a particular description unless in comparison with a skin of the house-martin, one of which I do not happen to have at hand. It is enough to say that the whole of the upper surface has a deep metallic green gloss, approaching to purple in some lights, except the tail and the flight feathers, which are dull black; the whole under surface is white except the tail and wings, which are of an ordinary neutral tint, whilst on this aspect the greater part of the shafts of the primaries is white. The occurrence of a specimen of a second species of American swallow in England is no more than any one, who had satisfied himself of the reality of the former event (the occurrence of the purple martin), would be prepared to expect. No kinds of land bird once driven out to sea seem better qualified for arriving safe at this side the Atlantic than the swallows; but it is a question whether even these could accomplish it without the assistance of ships, of which land birds at sea are so often seen by sailors to make use. Also they probably require strong and long continued west winds to lessen the duration of their exertion and their fast; and still it appears likely that they have a chance of surviving only when their misfortune happens at the time of their migrations, when doubtless nature has prepared them for extraordinary endurance of hunger and fatigue. And after all, what a very few are lucky or unlucky enough to reach our inhospitable shores!—*John Wolley; 11, Park Place Terrace, February* 5, 1853.

Note on the abundance of Woodcocks in particular Localities.—In reference to Mr. Newton's communication about the partiality of the unusual numbers of woodcocks observed this season (Zool. 3754), I may observe that in this neighbourhood they were never known to be so plentiful, and a friend who has just been in Wales, informs me they have appeared there in extraordinary numbers.—*C. R. Bree; Stowmarket, February,* 1853.

Occurrence of the Green Sandpiper (Totanus ochropus) *near Lynn.*—An individual of this species was shot here a day or two since. Although this bird is pretty frequent in some parts of Norfolk, its appearance in this neighbourhood is rare.—*E. L. King; Lynn, January* 12, 1853.

Occurrence of the Ivory Gull, &c. at Torquay.—The gull was shot on the 18th; it was first seen in and about our pier, evidently very much distressed, as it kept settling on the pier walls and on the vessels; it was stoned from this by the boys and followed to Livermead, about half a mile from here, and shot whilst sitting on one of the cliffs. The markings of the bird correspond exactly with those mentioned by Captain Sabine in Yarrell's second edition. The black redstart has been so frequently mentioned by myself and others that it can hardly be set down as a rare bird; I have six specimens by me at this moment, five of which were shot this winter, and others seen. These birds visit our shores between the months of September and February, and I have not the slightest doubt their migratory flight is to no great distance. Perhaps on our moors their times of coming and going correspond with those of the gray wagtail; the latter bird is to be found singly, or not more than a pair together, all through the winter, around our shores, and leaves us at the end of February, if a mild season, for their summer haunts. I have found them during the summer months in the neighbourhood of Chudleigh, &c., a distance of twelve or thirteen miles from here. A flight of bramblings made their appearance here during this week, a rare occurrence in this locality. I had eight specimens brought me for preserving. I knew of one pair only being shot a few winters back when snow was on the ground, similar to this season.—*E. Burt; Torquay, February* 14, 1853.

Note on the conveyance of Fish-spawn to New Zealand.—You are aware that I have been successful the last four or five years in the artificial breeding of trout in the river Wandle. About two years ago, a gentleman applied to me for some spawn to take with him to New Zealand, for the purpose of stocking the rivers there. I am glad to say that the experiment has succeeded, and that he has applied to Government for the reward offered for the introduction of fish into that country. I believe the spawn was taken out in tanks with *Valisneria*, according to Mr. Warington's system. —*S. Gurney, jun.; Carshalton, February* 10, 1853.

Occurrence of Toads in Stone.—One may well feel surprise to find another of these marvellous relations in the pages of the 'Zoologist' (3632), especially as it is one that supplies not a fraction of additional proof of the fact, or of the possibility of such occurrences against the well known laws of Nature. I generally find these second-hand relations all of a kind, and taking place under a pretty similar routine of circumstances. There is the same "simple tale" from the guileless miners, who show the broken stone with the hole in the centre, and talk about the toad or frog, with its lively sense of self-preservation as soon as it is liberated, so lively, in fact, that he always escapes, or is unfortunately smashed; then, they never think of preserving it; and so runs their "simple tale." Now, I am a total unbeliever in these "simple tales," for in my geological rambles I have never lost an opportunity of searching for cases amongst the very men who pretend to have witnessed them, and the result of my several examinations has been, in many cases, I am sorry to say, to find an amount of downright imposition among the miners, or a mere repetition of hearsay accounts of how Mikey, who has always left for some distant quarry, once was breaking a stone, and found a toad; and then follow the usual particulars. I can relate one of my experiences, which the readers of the 'Zoologist' may perhaps consider sufficient to establish my disbelief in the tales of "toads in blocks of stone," quite independently of any scientific consideration on the subject. A few years ago I was geologizing in the neighbourhood of Chesterfield, and came upon a quarryman, who related to me, while we drank a bottle of porter, that toads were plentiful in the stone thereabout. He said he had often found them, and that he knew a stone before it was broken that would contain a toad; giving me long and circumstantial accounts of the whole phenomenon: and to convince me of the truth of his statement, he took me to the quarry (a carboniferous sandstone) that I might see the stones out of which he said the toads had been released. I examined the stones and the whole quarry very attentively, and listened to the emphatic testimony of other miners present. After complying in an agreeable manner to their remark that the day was warm, and the water of the quarry not much in favour, I made a simple proposal of this nature: — I promised to pay to any one of them the sum of twenty shillings for the next stone in which they found a frog or toad when the stone was broken in two. They should catch the frog if he bolted out of the hole, replace him, and fit the stones together again, afterwards despatching it to me in that condition. I further promised to pay the sum of forty shillings to any one of them who should procure me a stone, unbroken, in which he considered a toad or frog was imprisoned, if, on breaking it myself, such turned out to be the case. These conditions were to remain in force for twelve months; and as the means of conveyance to my address, which I gave them, would occasion little or no trouble, the offer was readily accepted by the miners; who also, to express their confidence in soon being able to supply the order, proposed that it would be all safe if I advanced a little cash on account, which however I resolutely declined doing. And now, what will the credulous believers in these "toads in stone" who read the 'Zoologist' say, when they learn that I visited that quarry twice during the twelve months, in order to fetch the toads which never came by rail? I always found the men there blasting tons of new rock, splitting stones for every building purpose, yet dry-throated and sullen; for, alas! most unaccountably during that long twelve months they found plenty of holes—not toad-holes—in the sandstone, but the reptiles had been banished as effectually as ever they were from the Emerald Isle.—*John Plant; Salford Museum, October* 21, 1852.

Skin of a Large Snake.—I beg to forward the dimensions of a snake's skin which I found this afternoon on the heath, in the position in which it was cast; it measured 4 feet 2 inches in length, and from the depth of the skin, the snake must have been nearly 6 inches in circumference at the thickest part of the body, being by far the largest I ever saw or heard of.—*Octavius Pickard-Cambridge; Bloxworth House, near Blandford, Dorset, November* 8, 1852.

Note on the "Singular Abstinence of a Spider."—I have been much interested by Mr. Pickard-Cambridge's account of the spider which lived for eighteen months in his bird-case, as it is assumed, without food. (Zool. 3766). It is, however, perfectly certain from Mr. C.'s account, that the spider by some means got food, although how it did so escaped his observation. Although some animals can *exist* for a very considerable time without food, it is equally certain that none can *increase in size* without it. The growth of all living things is essentially due to a proper supply of aliment, and no increase of matter can take place in any living thing unless the material is supplied from without. *Ex nihilo nihil fit* is as true as the existence of matter itself. An opposite view can only be supported upon the assumption of a special miracle, or supernatural interference, by which matter is created; but this assumption in a case like the present is unphilosophical and cannot be supported. It is much easier to believe that other insects besides the spider were enclosed with the skin, upon which it fed as long as they continued to exist, than to believe that a special creation of matter took place in this individual case. The probability, however, was, that the skin was soft when cased, and continued, when excluded from the air, to retain sufficient nutriment to support the spider for most of the time mentioned. So long as this source of food existed, the spider lived and throve, when it was withdrawn, it shrivelled away and died.—*C. R. Bree; Stowmarket, February*, 1853.

Inquiry respecting certain appendages to the Haustellum of Diurnal Lepidoptera.—Under this head (Zool. 3775), Mr. A. R. Hogan records that he has more than once observed "certain little yellow excrescences on the haustella of Diurnal Lepidoptera," and asks for an explanation. In the second volume of the 'Transactions of the Entomological Society,' I find recorded that at the meeting, August 7, 1847, Mr. Bainbridge exhibited "a specimen of Polia nebulosa, from the left eye of which a fungus-like excrescence had been produced, of a slender filiform appearance at the base, but bifid and clavate at the tip; it was about the length of the head. The moth had been taken alive with this excrescence attached to it, by Mr. Shipman." At the following meeting Mr. Ingpen stated, that "this supposed fungus had been examined by Mr. Sowerby, who ascertained it to be the anther of a species of Ophrys, which had become accidentally attached to the eye." In the course of my collecting I have several times seen similar attachments to the heads of Lepidoptera, and have considered them to be, as in the above instance, parts of flowers to which the insects had been attracted, and which had accidentally adhered to them. The examples mentioned by Mr. Hogan I should think referrible to the same cause.—*J. W. Douglas; Lee, Kent, February* 7, 1853.

Duplicates of Lepidoptera.—I have duplicate specimens of Depressaria pallorella, D. rotundella, D. Alstrœmeriana, and D. Ulicitella, which I shall be happy to give to any entomologist who may be in want of those species.—*Thomas Boyd;* 17, *Clapton Square, December* 13, 1852.

Myrmica domestica.—Mr. Daniell's paper on the Myrmica domestica of Shuckard, printed in your last number (Zool. 3769), from the Linnean 'Proceedings,' I heard read at that Society; but it did not then occur to me to ask if anybody had ever seen the male and female of this ant with their wings; for of course, like the rest of their congeners, they appear at pairing time with these aerial appendages. The lower part of this house is much infested by these little plagues, indeed to such an extent as to make it almost impossible to keep preserves *et id genus omne* below. Their head quarters are the neighbourhood of the kitchen fire and the oven, where a stream of them may be observed at almost any time from January to December. I have watched them closely, but have never been able to detect them in the winged state. When the ants of the woods and gardens escape from their guards at pairing time, their departure is accompanied with such a hubbub and confusion as to arrest the attention of the most incurious; and from analogous reasoning, when the males and females of the ant in question leave their nests, you would expect the house to be swarming with them. Their nests are evidently in the foundation of the houses, which makes it almost impossible to extirpate them. I have tried various methods, but all without effect. Soft soap pressed into the crevices to which they may be traced appears to be of some service, but it probably only drives them to some other locality. It has been thought that the Regent's Park and its neighbourhood are the only places where this ant is found, and that they were imported into this country with the timber contained in the houses; but years since (in 1846), I saw them in thousands in one of the principal hotels at Winchester, the cups and saucers, and even the teapot came up swarming with them. Twenty years ago a house in Upper Bedford Place, then occupied by the late Dr. Bostock, was scarcely habitable in consequence of the myriads of these diminutive plagues. The Doctor took infinite pains to remedy the evil, and literally had cart-loads of earth removed from below the kitchen and cellars but without much abating the nuisance; and the ants, like Virgil's harpies—

> "Diripiuntque dapes, contactuque omnia fœdant
> Immundo."

You, or some of your correspondents may have seen these ants in their winged state; and others, as well as myself, would doubtless be pleased for any further history of them. When were they first observed in this country?—*R. Wakefield; 11, Sussex Place, Regent's Park, February 5, 1852.*

Occurrence of the Larva of Diglossa mersa at Baldoyle, Ireland.—The discovery of the larva of so singular and local an insect as Diglossa mersa, will probably be interesting to some of the readers of the 'Zoologist,' and I therefore wish to make known the following facts. On the 10th of August last, having proceeded to Baldoyle in search of the perfect insect, which had been very abundant there a few weeks before, I was surprised to find that it had almost entirely disappeared; but in its place, under the stones half imbedded in the sand, were numerous larvæ moving about in exactly the same peculiar way as the beetles themselves do when disturbed. With the exception of a dorsal stripe of a dark colour, their bodies and legs were perfectly white, and in size, they were at that time about the same as the imago. Mr. Haliday, though he has never taken them himself, agrees with me in thinking that these insects must be the true larvæ of Diglossa mersa.—*Arthur R. Hogan; Charlton, Dundrum, near Dublin, February* 12, 1853.

Catalogue of the Echinodermata of Orkney. By WILLIAM BALFOUR BAIKIE, Esq., M.D.

MY friend Mr. R. Heddle and myself, being prevented by numerous pressing avocations, from continuing at present, in a separate form, an account of the Natural History of Orkney, are nevertheless anxious to have one or two of our lists of species published, in order to show what has been done hitherto in that locality, and also to preserve our claim to priority of publication. I therefore beg to forward our "Catalogue of Echinoderms," for insertion in the pages of the 'Zoologist.'

Order I.—PINNIGRADA.

Family 1.—*Pentacrinitidæ.*

Rosy Feather-star, *Antedon decameros,* (Comatula rosea). Tolerably frequent.

Order II.—SPINIGRADA.

Family 1.—*Euryalidæ.*

Zetland Argus, *Astrophyton arborescens.* Two or three specimens in Orkney, less rare in Zetland.

Family 2.—*Ophiuridæ.*

Common Sand-star, *Ophiolepis ciliata,* (Ophiura texturata). Very abundant.

Lesser Sand-star, *O. albida*, (Ophiura albida). Less abundant.

Gray Brittle Star, *O. elegans*, (Ophiocoma neglecta). Tolerably common.

Daisy Brittle Star, *Ophiopholis aculeata*, (Ophiocoma Bellis). Abundant.

Goodsir's Brittle Star, *O. Goodsiri*, (Ophiocoma Goodsiri). One obtained in Zetland by Forbes and Goodsir, from deep water.

Granulated Brittle Star, *Ophiocoma nigra*, (O. granulata). Common.

Common Brittle Star, *Ophiothrix fragilis*, (Ophiocoma rosula). Very common.

Order III.—CIRRHIGRADA.

Family 1.—*Asteriidæ.*

Common Cross-fish, *Asterias rubens*, (Uraster rubens). Very frequent.

Violet Cross-fish, *A. violaceus*, (U. violaceus). Not frequent.

Spiny Cross-fish, *A. glacialis*, (U. glacialis). Rare; one dredged by Mr. R. Heddle.

Family 2.—*Astropectenidæ.*

Butthorn, *Astropecten irregularis*, (Asterias aurantiaca). Occasional.

Lingthorn, *Luidia Savignii*, (L. fragilissima). Not frequent.

Purple Sun-star, *Solaster endeca*. Not uncommon.

Common Sun-star, *S. papposa*. Common.

Eyed Cribella, *Henricia oculata*, (Cribella ocnlata). Very abundant.

Family 3.—*Asterinidæ.*

Bird's-foot Sea-star, *Palmipes membranaceus*. One specimen, dredged in Orkney, by Mr. J. Syme.

Templeton's Cushion-star, *Porania pulvillus*, (Goniaster Templetoni). Obtained in Orkney by the Rev. J. H. Pollexfen; rare.

Order IV.—CIRRHO-SPINIGRADA.

Family 1.—*Cidaridæ.*

Piper, *Cidaris papillata*. Only obtained hitherto in Zetland.

Family 2.—*Echinidæ.*

Fleming's Egg Urchin, *Echinus Flemingii.* First discovered in Zetland. One dredged in Orkney in 16 fathoms, by Mr. R. Heddle.

Common Egg Urchin, *E. esculentus,* (E. sphæra). Abundant.

Purple-tipped Egg Urchin, *E. miliaris.* Rare.

Silky-spined Egg Urchin, *Echinometra Dröbachensis,* (Echinus neglectus). Found in Zetland by Forbes and Goodsir. One in Orkney, found by Mr. R. Heddle.

Family 3. –*Scutellidæ.*

Cake Urchin, *Echinorachinus placenta.* One obtained near Foulah, in Zetland, by Prof. Jameson.

Green Pea Urchin, *Echinocyamus pusillus.* Tolerably common.

Family 4.—*Spatangidæ.*

Purple Heart Urchin, *Spatangus purpureus.* Of doubtful occurrence.

Common Heart Urchin, *Echinocardium cordatum,* (Amphidotus cordatus). Common. One, of very large size, found by Mr. R. Heddle, in Ronsey.

Rosy Heart Urchin, *E. ovatum,* (A. roseus). Hitherto found only in Zetland.

Fiddle Heart Urchin, *Brissiopsis lyrifera,* (Brissus lyrifer). Obtained in Zetland by Prof. Melville.

Order V.—CIRRHO-VERMIGRADA.

Family 1.—*Cuveriidæ.*

Snail Sea-cucumber, *Psolus phantapus.* Pretty common.

Short Psolinus, *Psolinus brevis.* Discovered in Zetland by Forbes and Goodsir.

Family 2.— *Pentactidæ.*

Great Sea-cucumber, *Pentacta frondosa,* (Cucumaria frondosa). Common in Zetland.

Long Sea-cucumber, *P. fusiformis,* (C. fusiformis). Occurs in Zetland.

Milk-white Sea-Girkin, *P. lactea,* (Ocnus lacteus). Occurs in Zetland.

Angular Sea-cucumber, *P. pentactes,* (Cucumaria pentactes). Rare in Orkney.

Glassy Sea-cucumber, *Thyronidium pellucidum*, (C. hyalina). Discovered in Zetland by Prof. Fleming.

T. Drummondii, (C. communis). Pretty common.

Order VI.—VERMIGRADA.

Family 1.—*Sipunculidæ*.

Sipunculus Strombi, (S. Bernhardus). Occurs in 10—20 fathoms, in shells of Turritella terebra &c.

Family 2.—*Priapulidæ*.

Tailed Priapulus, *Priapulus caudatus*. Discovered in Zetland by Prof. Fleming.

The above list of forty species comprises all as yet recorded as being obtained in our locality, though doubtless active searching, and more frequent dredging, would reveal many novelties, and enable us to compile a more copious catalogue. This we trust to see accomplished ere long. The technical terms here employed are in accordance with Dr. Gray's 'British Museum Catalogue,' the synonymes of Forbes's 'British Star-fishes' being added for the sake of convenience.

Wm. Balfour Baikie.

Haslar Hospital, Gosport,
January 18, 1853.

Notice of the Decease of the Rev. James Smith of Monquhitter.—Many of the readers of the 'Zoologist' will, doubtless, regret to hear of the death of the Rev. James Smith, A.M., Minister of the parish of Monquhitter, Aberdeenshire. He died at Banff, N.B., on the 29th of January, in the fifty-third year of his age. The respected and greatly lamented deceased was born in the parish of Drumblade, and was educated at King's College, Aberdeen. He was Rector of the Banff Academy for nearly twenty years, and was universally beloved and esteemed on account of his genius and learning, his amiable dispositions, and active benevolence. A profound scholar and theologian, he was at the same time an enthusiastic admirer of the beauties of nature, and a zealous and successful student of many departments of natural history. Ornithology was his favourite study, and he has contributed many valuable papers on this subject. But such was his modesty and diffidence, that he has left manuscripts of great value and interest on literary and scientific subjects still unpublished. Hir loss is irreparable, but it may be consolatory to his sorrowing friends to know that they have the warmest sympathy of the Church of which he was a distinguished ornament, as well as of some of the most eminent men of the present day, who admired and respected his great and varied talents and acquirements. Doubtless had his life been prolonged, he would have added much to our knowledge of the natural history of the North of Scotland. The author of this short memoir enjoyed the advantage of being a pupil of the deceased for many years, and is deeply sensible of the benefits he received from him, and truly grateful for the kind interest he always took in his welfare, and in that of every one who had been under his charge. "The memory of the just is precious; The just shall be had in everlasting remembrance."—*John Rose, A.M., M.D., &c.; Royal Hospital at Haslar, Gosport, February,* 1853.

Occurrence of the Stone Plover near Penzance. — I have mentioned on a former occasion that the occurrences of the Norfolk or stone plover in this district have almost always been confined to the winter season. In reference to this, I have now to report that I saw a specimen yesterday which was killed in the parish of St. Levan, near the Land's End.—*Edward Hearle Rodd; Penzance, February* 18, 1853.

Occurrence of the Apteryx at large in Wales. — A few days ago a friend from the Isle of Anglesey was visiting me, and mentioned in the course of conversation that some three or four years ago he shot in a marsh near our respective residences in Anglesey, a singular bird of the species of which he was ignorant. On my expressing a wish to see it, he kindly promised to send it to me; and on its arrival, I was quite startled with its resemblance to the New Zealand Apteryx, which I had seen in the Gardens of the Zoological Society. The body of the bird measured 18 inches, the beak about 5. I saw an absence alike of wings and tail: the feathers of hard rough texture, the colour being an uniform dark brown: the head round the base of the beak and the eyes thinly covered with long bristly hairs. Nothing I had ever seen bore a resemblance to the creature before me, except the Apteryx; and I hastened to consult an eminent ornithologist, to whom I sent a description of the bird, along with a feather. He assures me that it belongs to the genus Apteryx, but to which of the three known species he cannot determine, without an examination of the bird. How this creature could arrive at Anglesey seems a mystery, unless it had escaped from some wrecked vessel. Perhaps some of your correspondents can suggest some solution of this difficulty: all I can do is to assure them of the fact of this bird having been found alive and shot in Anglesey, as I have related. — *Josiah Spode; Armitage, Rugeley, Staffordshire, January* 28, 1853.

NOTICES OF NEW BOOKS.

'*The Annals and Magazine of Natural History,*' *Nos.* 61 *and* 62, *dated January and February,* 1853.

No arrangement could be more apt, more agreeable to all concerned, whether proprietors or subscribers, than the simultaneous publication on the 1st of every month of such journals as the 'Annals of Natural History,' the 'Zoologist' and the 'Phytologist:' the 'Annals,' for the reception of those technical and abstruse disquisitions which constitute, as it were, the pabulum on which the inquiring philosopher of after years is to feed; the others, for the registration of facts of *immediate as well as lasting* interest, on which the science of Natural History itself may be said to subsist. *To take* the 'Annals' confers that scientific *status* of which every aspirant for scientific reputation stands in need; to *read* the others is equally necessary to render him *au courant* with the scientific intelligence of the day. Now that a new year has commenced, we purpose enriching our pages with a list of the contents of the previous month's 'Annals;' the enormously increased circulation of the 'Zoologist' on the continent, will render it the means of thus advertizing its friendly and highly valued contemporary.

The January number contains the following papers: —

'Descriptions of some newly discovered species of Araneidæ.' By John Blackwall, F.L.S.

The new species are: — Thomisus versutus, Linyphia Meadii, L. anthracina, L. pulla, L. alacris, L. ericæa, Neriëne agrestis, N. vigilax, Walckenaëra exilis. Mr. Blackwall devotes about a page to the description of each of these minims, a fact which in itself is a sufficient proof of his elaborate painstaking. We have often had occasion to regret the comparative isolation which has attended the labours of this zealous naturalist; and it is with feelings of no ordinary pleasure that we find he is now assisted by so competent a coadjutor as our valued correspondent, Mr. Meade.

'Description of a new genus of Calanidæ.' By John Lubbock, Esq.

The genus is named Labidocera, from the somewhat forcipated antennæ: the species, L. Darwinii, was received from Mr. Darwin; it was taken in the Atlantic, off the coast of Patagonia, in latitude 38°.

'Characters of several Helices from West Australia and the Mauritius; with Notes on some species of Cyclostoma from Borneo.' By W. H. Benson, Esq.

The new species of Helix are H. plectilis, Tescorum, cygnea, subtesta, suffulta, and albidens.

'A Revision of the Genera of some of the Families of Conchifera, or Bivalve Shells.' By J. E. Gray, Ph.D., F.R.S., V.P.Z.S., &c.

'On the Janthinæ, Scalariæ, Naticæ, Lamellariæ, and Velutinæ.' By William Clark, Esq.

Bibliographical Notice. Proceedings of Societies.

Note translated from M. Desvoidy, on the 'Ravages of Coccus.' — (See Zool. 3800).

The February number contains the following papers : —

'Descriptions of species belonging to the genera Pterocyclos and Cyclostoma from Ceylon and West Australia.' By W. H. Benson, Esq.

'On the Animal of Chamostrea albida.' By Albany Hancock, Esq.

'Supplement to a Catalogue of British Spiders, including Remarks on their Structure, Functions, Œconomy and Systematic Arrangement.' By John Blackwall, F.L.S.

'Observations on the Anatomy of Actinia.' By T. Spencer Cobbold, M.D., Vice-President of the Physiological Society, Edinburgh.

'On the Division of Ctenobranchous Gasteropodous Mollusca into larger Groups and Families.' By J. E. Gray, Ph.D., F.R.S., V.P.Z.S., &c.

Bibliographical Notice. Proceedings of Learned Societies.

Note by M. Duméril on the 'Classification of Serpents,' translated from the 'Comptes Rendus.'

Note by M. Ulex on the 'Influence of Coal-gas on Vegetation,' translated from the 'Journal of Practical Chemistry.'

Note on the 'Habits of the Wigeon,' by Matthew Moggridge, Esq. Mr. M. says that last summer he saw a pair of old wigeons with five young ones swimming on the lower lake at Penllegare.

Note by M. Garreau on the 'Relation between the Oxygen consumed by the Spadix of Arum Italicum and the heat produced by it,' translated from the 'Annales des Sciences Naturelles.'

'*Molluscorum Britannicæ Synopsis. A Synopsis of the Mollusca of Great Britain, arranged according to their Natural Affinities and Anatomical Structure.*' By WILLIAM ELFORD LEACH, M.D., &c. London: Van Voorst. 1852.

DR. LEACH was an intellectual giant in Zoology. There is scarcely a branch of the science which he did not study, and certainly there is none which he studied that his genius did not illuminate. The posthumous publication of the volume before us is a just tribute to his memory; although there seems reason to regret its not having been previously brought to light: however, we are too glad to welcome anything from the pen of Dr. Leach, to quarrel with the time of its appearance, and what would once have been a valuable contribution to science, is still an acceptable memorial of its author's genius.

'*Shells and their Inhabitants. The Genera of Recent Mollusca arranged according to their Organization.*' By HENRY AND ARTHUR ADAMS. Part I. London: Van Voorst. 1853.

ANOTHER work on the same subject as the last, but having a wider range. We like the manner in which the work is commenced, it gives promise of great excellence: the general observations exhibit a certain amount of original observation, a feature which we think of no mean importance in works on Natural History.

'*Transactions of the Entomological Society of London.*' Vol. II. New Series. Part 3.

WE fancy we can perceive symptoms of an improvement in these 'Transactions,' which have too long been almost exclusively devoted to mere technical descriptions. We have repeatedly endeavoured to draw the attention of the entomologists of this country to the fact that observations on the habits of insects are far more to be desired than the most accurate descriptions or the most elaborate criticisms on synonymy; these latter being mainly useful in so far only as they enable us to identify the species of which the habits have been observed and recorded.

The part of the 'Transactions' now before us contains two papers having special reference to the habits of insects. A paper on the Paussidæ, by Mr. Westwood, contains an extremely interesting communication from Mr. Bowring, of Hong Kong. Mr. F. Smith has a paper "On the Development of Osmia parietina, and other British Insects," from which may be obtained several useful hints: the author appears to have discovered the cause of those little cartridge-like rolls on the leaves of young oak trees, which have frequently attracted our attention in an autumnal ramble. Mr. Douglas has also an interesting paper of "Contributions to the Natural History of British Micro-Lepidoptera." When the variety of habits of these insects is considered, and the excellent notices of the natural history of a few of them that appear in the ever delightful Memoirs of Reaumur and De Geer, we are surprised that so few students have turned their attention to the wide field of investigation before them.

Mr. Douglas very wisely reminds our collectors that rare species may be more easily obtained by finding the larvæ than by beating for the perfect insect. He is aware that the love of the study of the habits of the Micro-Lepidoptera might induce but few persons to come to his assistance in the somewhat Herculean task he has undertaken, were they not stimulated to extra exertion by the desire of obtaining a rarity.

Mr. Smith has long been known as a successful observer of the habits of bees, and his valuable papers on those interesting insect architects have a freshness about them peculiar to out-of-door naturalists. No amount of midnight in-door work will impart the peculiar charm which all records of original observations possess. Witness among others the papers by Mr. Douglas, intituled "Entomological Localities," which have from time to time appeared in our pages, and which have shown his accuracy as an observer, as well as evinced his partiality for the wood, the heath, and the down. Judging from the specimens of his papers on the Micro-Lepidoptera now before us, the habits of the larvæ of these insects appear capable of affording plenty of interesting occupation for the entomologist; we however regret that Mr. Douglas has said nothing of the habits of the perfect insects, as we imagine they must be as interesting as those of the larvæ.

We must not omit to notice the two plates by Mr. Wing (the new Secretary of the Society) which illustrate Mr. Douglas's papers, since they deserve especial mention for the care with which they have been executed; indeed, they reflect the highest credit on the skill of the artist, the magnified figures of the larvæ really looking as though they were alive and crawling about. We presume the apalpous appearance of fig. 1 *c*, in Plate XI., is correct; it strikes us however as extremely curious.

We heartily commend the zeal with which Mr. Douglas has entered on the wide field of observation that lies before him. The larvæ of many genera of Micro-Lepidoptera would appear to be altogether unknown; for example, Micropteryx, Nematopogon, Nemotois, Æchmia, Zelleria, Opostega, and others; we trust however that they will not long remain shrouded in their present obscurity.

Nor do we see why other orders of insects should not be treated in a similar manner; and trust ere long to have occasion to call the attention of our readers to the further results of researches similar to those of Mr. Douglas, records of which we may hope to see in future parts of the Society's 'Transactions.'

Proceedings of the Entomological Society.

February 7, 1853.—EDWARD NEWMAN, Esq., President, in the chair.

The President returned thanks for his election, and nominated as Vice-Presidents, W. W. Saunders, Esq., W. Spence, Esq., and J. O. Westwood, Esq.

The following donations were announced, and thanks ordered to be given to the donors:—The 'Zoologist' for February; by the Editor. The 'Literary Gazette' for January; by the Editor. 'Journal of the Society of Arts,' Nos. 1—10; by the Society. 'Entomologische Zeitung' for December, 1852; 'Linnea Entomologica,' 7 Band: Berlin, 1852; 'Catalogus Coleopterorum Europæ, herausgegeben vom Entomologischen Verein in Stettin:' Vierte Auflage, Berlin, 1852; all by the Entomological Society of Stettin. 'Bericht über die wissenchaftlichen Liestungen im Gebiete der Entomologie während des Jahres, 1850,' von Dr. Herm. Schaum, Berlin, 1852; by the Author. 'Description of a New Genus of Calanidæ,' by John Lubbock, Esq.; by the Author. 'Memorias de la Academia Real de Ciencias de Madrid,' Tomo 1, parti 2: Madrid, 1851; 'Resumen de las Actas,' 1850—51: Madrid, 1851; by the Academy. 'Journal of the Royal Agricultural Society of England,' Vol. XIII. part 2; by the Society. 'Reports of the Juries of the Exhibition of 1851;' by the Commissioners of the Exhibition. A specimen of Glossina morsitans; by Mr. Spence. A specimen of the insect-wax of China; by Mr. D. Hanbury. Specimens of Asemum striatum (3), Pissodes Pini (4), Tinea ochraceella, *Tengstrom* (3), Elachista locupletella (2); by Mr. John Scott, Renfrew.

The following gentlemen were balloted for and elected: John Garland, Esq., Dorchester, a Member, and F. T. Hudson, Esq., Greenwich, a Subscriber to the Society.

Mr. D. Hanbury brought for exhibition, specimens of the white insect-wax of China in its crude state, obtained by the persevering endeavours of his friend, William Lockhart, Esq., of Shanghae. The correct Chinese name for this production is *Chung-pih-la*—literally, insect-white-wax. He read the following particulars respecting it, and the insect by which it is produced, from a paper by Dr. Macgowan in the 'Journal of the Horticultural and Agricultural Society of India,' 1850.

"The animal feeds on an evergreen shrub or tree, Ligustrum lucidum, which is found throughout Central China, from the Pacific to Thibet, but the insect chiefly abounds in the province of Sychuen. Much attention is paid to the cultivation of this tree: extensive districts of country are covered with it, and it forms an important branch of agricultural industry. The ground is ploughed semi-annually, and kept perfectly free from weeds. In the third or fourth year they are stocked with the insect, which is effected in spring, with the nests of the insect. These are about the size of a 'fowl's head;' and are removed by cutting off a portion of the branch to which they are attached, leaving an inch each side of the nest. The sticks with the adhering nests are soaked in unhusked-rice-water for a quarter of an hour, when they may be separated. When the weather is damp or cool, they may be preserved in jars for a week, but if warm, they are to be tied to the branches of the trees to be stocked without delay, being first folded between leaves. By some the nests are probed out of their seat in the bark of the tree, without removing the branches.

At this period they are particularly exposed to the attacks of birds, and require watching.

"In a few days after being tied to the tree, the nests swell, and innumerable white insects, the size of 'nits,' emerge, and spread themselves on the branches of the tree, but soon, with one accord, descend towards the ground, where, if they find any grass, they take up their quarters. To prevent this, the ground beneath is kept quite bare, care being taken also that their implacable enemies, the ants, have no access to the tree. Finding no congenial resting place below, they reascend and fix themselves to the lower surface of the leaves, where they remain several days, when they repair to the branches, perforating the bark to feed on the fluid within.

"From 'nits' they attain the size of Pediculus homi. Having compared it to this, the most familiar to them of all insects, the Chinese authors, from whose writings most of these particulars have been derived, deem all further description superfluous. Early in June, the insects give to the trees the appearance of being covered with hoar frost, being 'changed into wax:' soon after this they are scraped off, being previously sprinkled with water. If the gathering be deferred till August, they adhere too firmly to be easily removed. Those which are suffered to remain to stock trees the ensuing season, secrete a purplish envelope about the end of August, which at first is no larger than a grain of rice, but as incubation proceeds, it expands, and becomes as large as a fowl's head, which is in the spring, when the nests are transferred to other trees, as already described.

"On being scraped from the trees the crude material is freed from its impurities, probably the skeleton of the insect, by spreading it on a strainer covering a cylindrical vessel, which is placed in a cauldron of boiling water; the wax is received into the former vessel, and on congealing is ready for the market.

"This white wax, in its chemical properties, is analogous to purified bees'-wax, and also spermaceti, but differing from both; being, in my opinion, an article perfectly *sui generis*. It is perfectly white, translucent, shining, not unctuous to the touch, inodorous, insipid, crumbles into a dry, inadhesive powder between the teeth, with a fibrous texture, resembling fibrous felspar; melts at 100° Fahr. (*sic*); insoluble in water, dissolves in essential oil, and is scarcely affected by boiling alcohol, the acids or alkalies.

"The aid of analytical chemistry is needed for the proper elucidation of this most beautiful material.* It has been supposed to be identical with the white wax of Madras, but as the Indian article has been found useless in the manufacture of candles, it cannot be the same as the Chinese, which is used for this purpose. It far excels also the vegetable wax of the United States (*Myrica cerifera*).

"Is this substance a secretion? There are Chinese who regard it as such; some representing it to be the saliva, and others the excrement of the insect. European writers take nearly the same view; but the best authorities expressly say that this opinion is incorrect, and that the animal is changed into wax. I am inclined to believe that the insect undergoes what may be styled a ceraceous degeneration, its whole body being permeated by the peculiar product, in the same manner as the Coccus Cacti is by carmine.

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* "In a memoir in the 'Philosophical Transactions' for 1848, Mr. B. C. Brodie states, that although in appearance this substance resembles stearine or spermaceti more than bees'-wax, it comes nearest to purified *Cerin!*"

"It costs at Ningpo, from twenty-two to thirty-five cents per pound. The annual products of this humble creature in China, cannot be far from 400,000 lbs."

Mr. Hanbury added, that it was harder than bees'-wax and that its fusing point was about 184° Fahr.; it had been imported into this country and employed for making candles and other purposes, but it was too expensive to be generally useful.

Mr. Westwood remarked that the insects were the wingless females of a species of Coccus, which, with the exception of their short legs, were wholly permeated with the secretion of wax. He proposes to call the species C. Sinensis.

Mr. Westwood exhibited the following species of Coccidæ, all more or less resembling the insect under notice, in producing colouring or waxy matter. Coccus Ilicis, from South of Europe, Margarodes Formicarum, the ground pearl of the West Indies, Coccus manniparus, from Mount Sinai, and a species from Manilla.

Mr. Hanbury also exhibited a Chinese print of the tree, the insects, and the masses left on the plants from which the Cocci are propagated.

Mr. Douglas read part of a communication made to the 'Gardeners' Chronicle' a short time since, by Mr. Fortune, on the insect in question.

"Sir George Staunton observed an insect of this description on the coast of Cochin China, 'busily employed upon the small branches of a shrub then neither in fruit nor flower, but its general habit bearing somewhat the appearance of a privet;' writers generally call this plant Ligustrum lucidum; yet M. S. Julien who has intimate knowledge of the written language of China, says, that the wax insects are stated to be raised on three species of plants, namely, Ligustrum glabrum, Rhus succedanea, and a species of Hibiscus, (Comptes Rendus, 1840). But I now possess evidence which goes a long way to prove that another plant, different from any of the above, is the true white-wax tree of Central China. Before leaving China I had the honour of receiving from the French Consul at Shanghae, two small trees, which had been brought down by one of the Catholic missionaries from the province of Sychuen. I cannot see how any mistake could have been made, as the tree is no doubt as common in that province, as the tallow-tree is at Che Kiang. I am happy to say that one of these plants has reached this country in good condition, and is now at the Exotic Nursery of Messrs. Knight and Perry at Chelsea. It appears very like an ash, but apparently different from any known species. It is deciduous, and no doubt will prove perfectly hardy in the gardens of this country."

Mr. Baly exhibited some bees which had been preserved in spirit, and restored to their pristine beauty by washing with soap and warm water, the pile being dried and raised with blotting paper.

Mr. Waterhouse said he had often treated insects of all orders, except Lepidoptera, in this way, even when they were greasy, with the greatest success, and Mr. Edward Sheppard also spoke in its favour.

The following communication from Mr. Spence was read: —

"Through the kindness of Dr. Quain, of Harley Street, Cavendish Square, I am enabled to lay before the Society specimens of the African Dipterous insect, '*Tsétsé*,' communicated to him by William Oswell, Esq., who has travelled extensively in Africa; and also the following very interesting memorandum respecting it, by the same gentleman, who informed him that on one occasion he lost forty-nine out of fifty-seven oxen, of which his teams consisted, from the attacks of this insect, and that the interval from their being first attacked to their death, varied from three to twelve weeks.

"'*Tsétsé.*—This fly, which is the same as that found to the eastward of the Limpopo, infests the country of Sebitoeni, a chief living between the 18th and 15th degrees of South latitude, and the 24th and 28th of East longitude. It is fortunately confined to particular spots, and is never known to shift. The inhabitants herd their cattle at a safe distance from its haunts; and should they, in changing their cattle-posts, be obliged to pass through tracts of country in which it exists, they choose a moonlight winter's night, as during the nights of the cold weather it does not bite. From what I have seen, I believe that three or four flies will kill a full-grown ox. We examined about twenty of ours which were bitten and died, and the appearances were similar in all. On raising the skin, a glairy appearance of the muscles and flesh (which was much wasted) presented itself. The stomach and intestines healthy; the heart, lungs and liver, sometimes all, and invariably one or the other, diseased; the heart in particular attracted our attention, it was no longer a firm muscle, but collapsed readily on compression of its walls, and had the appearance of flesh that had been steeped in water. The blood was greatly diminished in quantity and altered in quality; not more than twenty pints could be obtained from the largest ox, and that thick and albuminous; the hands, when plunged into it, came out free of stain. The poison would seem to grow in the blood, and through it to affect the vital organs. All domesticated animals, save, I believe, goats, die from the bite of this insect. Calves and sucking animals however are not affected; and man and all wild animals are bitten with impunity. The symptoms of the bite are swelling of the eyelids and a watery discharge from the eyes, and considerable enlargement of the sublingual glands.'

"Mr. Oswell's interesting account gives several new and curious particulars relative to the effect of the bite of this insect on the animals attacked by it, not mentioned in Mr. Cumming's 'Five Years of a Hunter's Life in the far Interior of South Africa,' nor in the valuable paper by Mr. Westwood read to the Zoological Society, December 10, 1850,* on this species, where it is described as belonging to the genus Glossina of Wiedemann (allied to Stomoxys, but differing in having the proboscis straight, without any elbow, and with a round, hairy, bulbous base, possibly, as suggested to Mr. Westwood by Professor Owen, a reservoir of some powerfully poisonous liquid), under the name of Glossina morsitans, *Westwood.*

"The specimens now laid before the Society, agree exactly with Mr. Westwood's description."

Mr. Oswell, who was present as a visitor, gave a detailed and very interesting account of his experience with this African pest, the facts of which are embodied in the foregoing communication. He mentioned however that the fly makes a droning hum, and is so pertinacious in its attacks that it is impossible to drive it away.

Mr. Spence also called attention to the discovery in the caves of Illyria, of two more species of blind beetles, a printed account of which, by Herr Schmidt, had been sent to him by the author, extracted from the 'Laibacher Zeitung,' August 4, 1852.

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* 'Proceedings,' in the 'Annals of Natural History,' x. 138—150.

These insects were both found in the darkest parts of the caves. and retreated quickly from the light into clefts of the rock.

"Leptoderus angustatus. Red-brown; head and thorax darker, shining, the latter swelled out in front, and hindwardly much contracted; elytra oval, viewed with a lens they are scarred and marked with fine points: palpi, antennæ and feet somewhat lighter brown, beset with strong, yellowish hairs. The female has in the tarsi of the fore-feet only four joints, but five in all the others; whereas the male has five joints in the fore-feet also, of which the first, second, and third, are enlarged from the base outwards, especially the first, which exceeds the next two both in length and width.

"Leptoderus sericeus. Brown; head and thorax slightly darker, face with fine yellow hairs; thorax nearly even with the head, cylindric, long, broad, and widened a little in front: palpi and antennæ much lighter, the latter, particularly in the male, very long-jointed, and from the sixth joint with yellow hairs; the tarsi in the male are five-jointed as in the preceding species, but the joints are of eqal thickness. The body is 2 lines long, and scarcely 1 line broad, and is of the form of L. angustatus. The elytra are marked with fine, round depressions, and covered with shining yellow hairs. Both sexes are much alike in colour, but in the female the joints of the antennæ are rather shorter, and the joints of the fore-tarsi are only four."

Mr. Spence remarked, that though these beetles lived in the darkest caves, and were described to be eyeless (augenlos) yet their running away from light seemed to show they were not destitute of an optic nerve.

Read, the following extracts of a letter addressed to the Secretary by the Rev. Joseph Greene of Halton Rectory, near Wendover, dated December 8, 1852.

"In reference to the question of 'whether the earth in caterpillar-boxes should be moist or dry?' there are two points in favour of the latter, which I omitted to mention last night. Should the earth be in any degree of a clayey consistency, the moistening tends to make it so close, as to render it nearly impossible for the weaker larvæ to penetrate it, as I have found to be the case more than once. Again, if the earth be moistened, it often happens, that after drying, it becomes so hard as to prevent the pupa from bursting, and permitting the escape of the insect. I have repeatedly found this to be the case in digging for pupæ. And once I found even so large and strong an insect as Smerinthus Tiliæ, which from this cause had been unable to escape. It was perfectly formed; but was so firmly imbedded that it could not emerge, and miserably perished! This I imagine to be one of the causes of the periodic uncertainty in the appearance of many insects. I feel no doubt, that, when hard frosts succeed protracted rains, a multitude of subterranean pupæ are thus destroyed.

"You observed that Ireland had been much neglected by entomologists. I am quite of your opinion. I am sure there are many valuable insects to be found there. In proof of which, I may mention that Mr. Ball himself took five specimens of Deilephila Euphorbiæ, somewhere on the southern coast. I do not at this moment remember the exact locality, but could easily find out. I saw two of the specimens; the others perished though neglect. I have in my own collection, two Euphorbiæ and one Galii, taken in Ireland; and, as I mentioned to you, I am certain I saw Catocala Fraxini."

Mr. Waterhouse observed, that the Rev. F. W. Hope used to rear great numbers of Lepidoptera, and he always kept the earth in his cages covered with damp moss.

Read also, the following note by the Rev. J. Greene, on a curious circumstance observed in hybernating specimens of Vanessa Io.

"About ten days since (December 8), being engaged in digging for pupæ, in a wood about a mile from my residence, I came to a moderate-sized beech-tree, whose roots formed an arch, about half a foot in height. As I was on the point of inserting my trowel into the cavity, I heard a faint hissing noise: thinking it might be an adder, I started back. Upon a closer inspection, however, I discovered, to my great surprise, three hybernating Vanessa Io (the peacock). Two were attached to the concave part of the arch, the third was on the ground, and the noise I heard proceeded from it. It is difficult to describe the noise exactly, but the nearest approximation to it, is the sound produced by blowing slowly, and with moderate force, through the closed teeth. It was decidedly not a rustling sound, such as would proceed from an imprisoned insect. While making the noise, the wings were slowly depressed and elevated. To remove any doubt as to whether the sound was produced by the insect, I pushed off one that was adhering to the tree, which immediately commenced the same movement of the wings, accompanied by a similar noise. That the noise was produced in part by the movement of the wings is very likely; but that it was wholly so, is, I think, improbable, from the fact of the extreme slowness (I might say, deliberation) with which the wings were opened and shut. Strange as it may appear, it certainly struck me that the noise was intended to intimidate! Whenever I pointed the trowel at it, it forthwith turned towards it, and commenced the noise with renewed vigour. I saw no more, neither do I remember to have ever met with hybernating Diurnes before.

"As I think I can find the tree again, I shall re-examine it, though I am not aware that I can add anything to the above.

"I may add, that a more unlikely place for hybernation could scarcely be found. The tree was on a high bank, facing the north, and the opening was quite exposed to rain, snow, &c."

The following memoirs were also read:—

"Descriptions of some new species of Longicorn beetles, brought from the North of China, by R. Fortune, Esq." By W. W. Saunders, Esq.

"Descriptions of new Genera and Species of Curculionidæ," by G. R. Waterhouse, Esq. The following is an abstract:—

OXYRHYNCHUS.—Family *Oxÿrhynchidæ.*

Oxyrhynchus Fortuni. A species much larger and proportionately shorter than *O. discors*, with the puncturing both on the thorax and elytra less distinct; general colour pale ashy brown; thorax with three longitudinal white lines; elytra with a white line running from the shoulder to the middle of the suture. Hab. N. China.

Oxyrhynchus Philippininensis. Like *O. discors* in its markings, but of larger size, the elytra relatively shorter, with a tooth in the middle at the base, the margin much raised between this tooth and the scutellum, and the raised part concave beneath and opening in front. Hab. Philippine Islands.

Tetralophus, a new genus of the *Etimidæ*, which appears to approach most nearly to the genus *Mythites* of Schönherr, but, judging from the description, must have the antennæ shorter, and differs, moreover, in having two longitudinal crests on the rostrum, the sides of the thorax much produced and angular, and the upper surface with two high crests; the legs very slender.

T. sculpturatus is 5¾ lines long; black, and has two series of angular tubercles on each elytron, the hindermost tubercle being the largest in the inner series, and the foremost and last tubercles of the outer series are both very large. Hab. Swan River.

Leptostethus, a new genus of *Pachyrhynchidæ*, near *Polyphrades* in its characters, but with the body much more elongated, and the anterior coxæ separated, leaving a narrow chest between them.

L. marginatus, a large insect, being 7¾ lines long,* and 2⅔ wide; much elongated, the rostrum very broad and flat above, the sides of the body nearly parallel: black; thorax thickly covered with small glossy granules; elytra crenato-striated: both thorax and elytra with a broad, yellow, squamose band at the sides; femora red, with the apex black.

L. Waltoni is black, covered with pale, dirty yellowish scales; has the femora red, the rostrum with four keels; thorax thickly granulated; elytra punctato-striate, the apex somewhat produced at the suture; length 5 lines; breadth 2 lines. Both species are from South-West Africa.

Achlainomus, new genus of the *Pachyrhynchidæ*. General form most near to *Prostomus*, the rostrum wants the longitudinal ridges seen in that genus; the jaws are short, the joints of the antennæ rather shorter, the thorax less convex; the elytra shorter and less convex, separated from the prothorax, and with the humeral angles not produced: fore tibiæ much curved and very strongly dentated within; middle and hind tibiæ dilated and produced externally and internally at the apex.

A. ebeninus is from India: glossy black, destitute of scales; antennæ, and terminal joint of tarsi pitchy red; rostrum canaliculated; thorax very delicately punctured, canaliculated; elytra punctato-striated. Its length is 4½ lines; width 1¾ line.

Enaptorhinus, a new genus of the *Brachyderidæ*, nearly related to *Geotragus*, but differs in the form being much more elongated, the rostrum somewhat convex above, separated from the head by a transverse depression, the antennæ stouter and with shorter joints. The male has the hinder tibiæ clothed with very long pale hairs.

A. Sinensis is 4⅔ lines long, and 1¼ line broad, of a pitchy brown colour, sparingly clothed with scales; thorax rugose, and with three pale lines: elytra punctato-striate; the back much depressed, and even slightly concave in the middle, but somewhat humped near the apex, where there are numerous long hairs. Hab. N. China.

Cubicosomus, a new genus of the *Cleonidæ*, near *Leptops*, but with the elytra very short and nearly of a cubical form; the two basal joints of the funiculus only are obconic, the rest very short; the rostrum rather longer than in *Leptops*.

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* The rostrum is not included in the dimensions of length given in the paper.

C. Whitei is 5½ lines in length, and 3¼ in width; black, with brownish scales; rostrum with a longitudinal depression, the base obtusely carinated, the forehead with a slight swelling on either side; thorax narrow, the sides nearly straight, above very uneven, rugose, the middle longitudinally impressed, and with an irregular transverse depression behind the middle; elytra above uneven, deeply punctured, the punctures arranged in somewhat irregular rows, the second and fifth (or sixth?) insterstices each with four large obtuse tubercles, and the apex with some smaller tubercles. Hab. Richmond River, New Holland.

EURYCHIRUS, a new genus of the *Molytidæ*, near *Hypera*. Rostrum and antennæ nearly as in *Hypera punctata;* the head rather more exserted; the thorax without any trace of post-ocular lobes: the legs very long and very stout, the femora much incrassated in the middle; the tarsi very large, and unusually broad.

E. bituberculatus. Length 4¼ lines; width 2¾ lines. Form short and broad; elytra with the humeral angles produced, obtusely angled: black, clothed with greenish gray, sub-metallic scales; rostrum pitchy, carinated; thorax thickly punctured; elytra punctato-striated, the punctures each enclosing a scale; each elytron with a large tubercle nearly in the middle, and a smaller one, sub-apical in its position. Hab. New Holland.

PLACODERES, a new genus of the *Cyclomides*, nearly related to *Acantholophus*, but differs in having the funiculus of the antennæ distinctly seven-jointed, the head and thorax destitute of spines, the latter very broad, much produced at the sides, and nearly angular in the middle, the dorsal surface nearly flat: elytra pedunculated, not touching the prothorax.

P. variegatus. Length 9 lines; width 3⅔ lines. Black, clothed with minute, narrow scales, some brown and some yellowish; rostrum tricarinated; thorax thickly granulated, and slightly grooved along the middle; elytra punctato-striated, the punctures remote, interstices with small glossy granules, variegated with dirty yellow, brown and black. Hab. unknown, probably Australia.

ECTEMNORHINUS, a new genus of the *Phyllobidæ*, near *Phyllobius;* the general form more elongated and less convex; rostrum shorter; the antennæ inserted in a cavity near the apex, which cavity has the fore part opening laterally, the hinder part curved inward, and opening on the upper surface of the rostrum: elytra much elongated, and each elytron obtusely rounded at the apex: body soft.

E. viridis. Length 3¾ lines; width 1½ line. Elongate, pitchy, clothed with metallic green scales; legs and antennæ ferruginous; thorax small, sub-cylindrical, but slightly swollen in the middle, and rather obscurely keeled; elytra delicately punctato-striated. Hab. Kerguelen's Land, in the Southern Ocean.

DREPANODERES, a new genus, also of the *Phyllobidæ*, remarkable for the thorax being produced on either side into a large sub-recurved pointed process, the apex of the process extending beyond the humeral angle of the elytra.

D. viridifasciatus (an insect in the collection of the British Museum), is 2⅔ lines long; black; antennæ and legs red, clothed with bright green metallic scales; head with a triangular black patch behind; thorax punctated, with three longitudinal denuded bands; elytra punctato-striated, each with four irregular, short, transverse, green bands, which extend neither to the suture nor the outer margin, and with a few irregular green patches near the apex.

D. fuscus, is a trifle smaller than the last, and of a brown colour; the legs and antennæ testaceous; the interstices of the striæ of the elytra clothed with small hairs. Both species are from India.

Synaptonyx, a new genus of the *Erirhinidæ*. Body of a short ovate form, the thorax very little narrower than the elytra, which are emarginated in front in the form of a segment of a circle; rostrum about equal to the head and thorax in length, and of moderate thickness, rather suddenly bent down near the middle; the antennal groove scarcely visible excepting in front, where the antennæ are inserted; antennæ moderate. Legs rather short, claws united at the base, and very little separated at the apex.

S. ovatus, black, clothed with small ashy white scales; antennæ and terminal joint of the tarsus ferruginous; rostrum clothed with scales above, carinated at the base, the apical portion acutely margined on either side, and the upper surface nearly flat; thorax very finely punctured and with but few scales; elytra striato-punctated, the interstices broad, and having the scales in small patches, giving a variegated black and pale appearance. Hab. Australia.

Chelotonyx, a new genus of the *Erirhinidæ*, nearly allied to *Prionomerus*, but differs in having the body of a somewhat longer and more ovate form, the rostrum and antennæ longer; the tarsi also longer, and furnished with bifid claws. The claws in *Prionomerus*, it may be remarked, have a large square appendage at the base. The fore-femora have the same large serrated tooth beneath, and the anterior tibiæ are curved as in *Prionomerus*.

C. Batesii is about equal in size to *Balaninus nucum*, of a bronze colour, and clothed with piliform, whitish scales, those on the elytra forming little patches: rostrum tricarinated above; thorax punctured; elytra punctato-striated. Length 3¼ lines. Hab. Pará, Amazons.

Anomæarthria, a new genus of the *Baridiidæ*, near *Cylindrocerus*. The female of the species on which the new genus is founded, differs from *Cylindrocerus* in having all the joints of the funiculus of the antennæ obconic, and the rostrum very strongly curved, so that the point is directed backwards; and the male is distinguished from all other *Baridiidæ* in having the funiculus composed, first, of a very small joint, then a very large oval joint, and with the following joints all nearly oval but decreasing successively in size. The middle tibiæ at the apex, the posterior tibiæ on the inner side, and the basal joint of the four posterior tarsi are each furnished with a tuft of velvet-like yellow hairs.

A. cæruleipennis is nearly equal in size to *Cylindrocerus signum*, but of a narrower form; glossy black, with the elytra purple-blue, a small spot of yellow scales at the base of each elytron, not far from the scutellum: male, with the joints of the funiculus clothed with long hairs, and the body with scattered yellow scales beneath. Length 3 lines. Hab. Minas Geraes, Brazil.

Protopalus, Schönherr (*Cryptorhynchidæ*). Mr. Waterhouse expresses an opinion that the characters of this genus are drawn up from a male insect only, and that the female does not present the crenulations on the under side of the rostrum, and that it differs further from the male, in having the anterior legs very little longer than the others. This opinion is founded upon the fact that he possesses an insect presenting these differences (and these only), when compared with Schönherr's description of *P. Stephensi*. A second species is described, which differs from the insect referred to in Mr. Waterhouse's collection, in having the thorax and elytra rather less humped, and in having the second joint of the funiculus fully twice as long as the first. Its length 7⅓ lines. Hab. Moreton Bay. It is named *P. Schönherri.*

PEZICHUS, a new genus of the *Cryptorhynchidæ*—first division: founded upon an insect in which the structure of the antennæ resembles that in *Cylindrocorynus*, excepting that these organs are rather longer and more slender. The legs are very long and slender, the femora not clavate; the tarsi very long and slender and with the first joint nearly as long as the remaining three taken together; thorax rather small; elytra moderate as to length, nearly twice as broad as the thorax.

P. binotatus is 5¾ lines in length, and 2⅓ in breadth. Black, unequally clothed with brown scales; thorax granulated behind and at the sides, and keeled above; elytra punctato-striated, the punctures very widely separated, and each enclosing a scale; the second interstice keeled; a small, oblique, dirty white mark on each elytron, rather behind the middle: femora dentate. Hab. Moreton Bay.

GLOCHINORHINUS, a new genus of the *Cryptorhynchidæ* — first division: body nearly cylindrical, tubercular and squamose; funiculus with the terminal joint more slender than the rest, and longer than several of the preceding joints. Male with a recurved spine on each side of the rostrum in the middle, and a small spine behind this.

G. Doubledayi (Protopalus? Doubledayi, *Jeckel's MSS.*): black, clothed with cinereous scales; thorax granulated, and with a middle keel; elytra irregularly punctato-striate; the second interstice with three short crests, each appearing as if composed of an aggregation of tubercles; third interstice with one tubercle in the middle, fourth with several small tubercles, and with a sub-apical group of four or five small tubercles; legs long and slender, fore-legs the longest. Length 5⅓ lines; width 2⅓ lines. Hab. Moreton Bay.

PROTOPTERUS, Schö. Four new species of this genus are described, and these are placed in two sections.

Section I.—The second joint of the funiculus much longer than the first. It includes—

P. Chevrolatii, which is of an elongate-ovate form, has the thorax attenuated and two-pointed in front, and produced considerably beyond the head, with a short keel in the middle of the dorsal surface, and an obtuse tubercle on each side of this keel: small granules are scattered over the surface of the thorax and elytra; the latter are irregularly punctured, excepting at the sides, and each elytron has about nine obtuse tubercles, three in the second interstice, three in the fourth, one in the sixth, and two near the shoulder: the apex is produced into two conical tubercles, one belonging to each elytron. General colour black, clothed with brown scales; a band of greenish ash-coloured scales runs from the shoulders obliquely inwards and backwards, beyond the middle of the elytra. Length 6½ lines; width 2⅓ lines. Hab. Moreton Bay.

P. Jeckelii is rather broader, and less convex than the preceding, has the thorax produced beyond the head, and bilobed in front; the dorsal surface keeled and bituberculate, the sides rounded and notched in the middle; a few very minute granules scattered on the elytra: each elytron with three large obtuse tubercles on the place of the second interstice, two on the fourth, one on the sixth in the middle, and two at the shoulder, besides a transverse irregular elevation at the base; the apex produced into a large tubercle, having a triangular base. Black with minute brown scales, and scattered large scales. Length 6⅔ lines; width 2⅔ lines. Hab. Moreton Bay.

Section II.—Antennæ with the two basal joints equal, or very nearly so.

P. Parryi nearly resembles *P. Jeckelii*, but the tubercles on the elytra are less obtuse, and some of them pointed; humeral angles of the elytra more prominent; the thorax with two tubercles in front, and not produced beyond the head; a very obtuse keel in the middle, and two tubercles (one behind the other) on each side of the keel, besides a lateral tubercle; elytra each with a sub-apical, dirty white mark, united posteriorly to a small tubercle of the same colour, the scales on other parts brown. Length 7½ lines; width 3¼ lines. Hab. Sydney. In the collection of the British Museum.

P. Westwoodii, more elongate and more convex than the two preceding species; thorax produced slightly beyond the head in front, where there are two obtuse tubercles; the central portion with a short keel; and four tubercles are arranged nearly in a transverse line on the middle of the thorax, the outer pair project horizontally from the sides of the thorax, which, together with the upper surface of the elytra, presents numerous small glossy granules scattered over the surface. Each elytron has five conical tubercles arranged in a line parallel with, and not far from the suture, of which the fourth is very large and prominent, the last (or fifth) small; besides these are a few other tubercles, of which three may be especially noticed; they are arranged in an oblique line, extending from the shoulder to the third of the inner row of tubercles; apex of the elytra truncate. Length 7½ lines; width 2¾ lines. Hab. Australia.

Plagiocorynus, a new genus of the *Cryptorhynchidæ*—first division: founded upon a large Cryptorhynchus, with a general form of the body somewhat like that of *Leptops quadrituberculatus*. Rostrum very short and stout, and irregularly quadricarinated above; thorax large, produced in front into a rounded lobe which projects considerably beyond the head; elytra of the same width at the base as the thorax, gradually becoming wider towards the hinder part, the sides very deep and bent somewhat inwards, the apical portion bent suddenly downwards, with four obtuse tubercles in a transverse line, behind the middle; the base rather deeply trisinuated; legs short and stout, femora not dentate; tarsi small; antennæ with the second joint of funiculus elongate obconic, the first short obconic, the rest very short; club short, and obliquely truncated, the three terminal joints for the most part hidden and enclosed by the basal joint.

P. quadrituberculatus is black, clothed with dark brown scales; thorax rather coarsely punctured, with a mesial keel and a short keel on each side of the disc; elytra with large punctures arranged in rows. Length 6 lines; width 3 lines. Hab.

Moreton Bay. The male smaller and narrower than indicated by the dimensions here given.

CHÆTECTETORUS, Schönherr.

C. spinipennis, a new species. Length 4 lines; width 1¾ line. Black, clothed with brownish scales: thorax with a short mesial keel, and two longitudinal and slightly elevated crests on the fore part, diverging slightly as they extend backwards towards the middle of the thorax; elytra punctate-striated, with a transverse black band behind the middle, and which does not extend to the outer margins; an oblong black spot between this and the base, a small tubercle towards the apex, clothed with pale brown scales, and minute black markings; apex produced at the suture into a sharp spine, and some acute denticles external to this spine. Hab. Australia.

SYMPIEZOCELUS, a new genus of the *Cryptorhynchidæ*—first division: founded upon an insect which in general form reminds one of the species of *Tranes* or *Iphipus*.

S. Spencei is of a glossy, pitchy-black colour, destitute of scales: rostrum short, rather slender and depressed, dilated at the base; antennal groove in form of an oblong fovea, situated immediately in front of the eye; antennæ with the basal joint (or scape) very short and almost obconic; first and second joints of funiculus obconic, the rest short; club of a very short oval form, almost round: thorax emarginated on each side behind the eye, constricted in front, the sides very little rounded, upper surface but little convex, with scattered punctures, and a very short keel behind: elytra very little broader than the thorax, oblong, rounded at the apex, strongly punctato-striated: legs short, femora large and compressed; tibiæ broad and compressed, dentated externally near the apex, and with a large incurved claw at the apex; tarsi small, not dilated: the two basal joints destitute of spongy substance beneath. Hab. Richmond River, Australia.

HYBOPHORUS, a new genus of the *Cryptorhynchidæ*—second division: the rostral groove not acutely margined behind: founded upon an insect having the general form nearly similar to certain species of *Centrinus*, such as *C. morio*: the thorax short, narrow before, and broad behind; the elytra much broader than the thorax at the base, with the shoulders prominent, but rounded, the width gradually decreasing to the apex, which is rounded; nearest to *Rhyssomatus* in affinity, but differs in having simple diverging claws (those in *Rhyssomatus* being bifid), and in having the humeral angles of the elytra prominent: rostrum long, sub-carinated; antennæ with two basal joints of funiculus longish obconic, the rest short; eyes large, much approximated in front: thorax constricted in front, then dilated with a rounded outline, with a much elevated keel on the fore part.

Hybophorus rufo-tuberosus; black; without scales; thorax with a transverse row of large punctures in front, interrupted by the large central keel, and some coarse punctures on either side; elytra with the region of the suture smooth, and in the place of the first stria, with widely separated depressions, each bearing in the centre a small glossy black granule, the remaining parts very uneven, with irregular and obtuse tubercles, the crowns of which are red, the interspaces having scattered black granules; of the tubercles one at the shoulder is very large, and the same may be said of a second, which is placed about midway between the base and apex of the elytra, and not far from the suture; femora with a strong tooth beneath, rather beyond the middle, and a smaller tooth between this and the apex. Length 3⅔ lines; width 2½ lines. Hab. Australia. Probably Moreton Bay.—*J. W. D.*

Occurrence of the Summer Duck (Dendronessa Sponsa, *Swainson*) *in Sussex.*—On the 24th of December, 1851, I observed, whilst driving in a gig past a pond in Westgrinsted Park, near Horsham, Sussex, two ducks on the water; and at once saw that they were some species which I had never before met with. Having ascertained from the owner of the property, that they were not turned out by him, I returned to the spot with my gun. I found the birds still there, but very wary: I, however, by going on my hands and knees some three or four hundred yards, succeeded in shooting one, which turned out to be an adult male in most perfect plumage. The other escaped for the time, but on the 27th of the same month was shot by a man of the name of Downer, game-keeper to Sir C. M. Burrell, and sent to me. This was also an adult male. The said keeper told me that they had been about the park for about three weeks, but that he had never been able to get a shot at them, on account of their being so wild. The bird I shot had an old gun-shot wound on one of the tarsi, from which I pressed out a shot with my thumb: the bone appeared to have been broken, but to have united and healed, thus showing that the bird must have been some considerable time at large. The gizzard of each contained a few acorns, and a small quantity of grass, with some minute particles of gravel and flint. They were exceedingly wild, the plumage was quite perfect, and they had not the slightest appearance of ever having been in confinement.—*W. Borrer, jun.; Cowfold, Sussex, February*, 1853.

Occurrence of the Glaucous Gull (Larus glaucus) *in Sussex.*—My friend the Rev. R. N. Dennis, of East Blatchington, Seaford, Sussex, sends me word that about the 20th of December, 1852, a bird of this species, apparently commencing the plumage of the third year, was brought to him alive, having been caught in that neighbourhood; he was exceedingly savage, and severely bit the person who brought him.—*Id.*

Occurrence of various Birds in Sussex.—On the same authority, I beg to record the occurrence of the following visitors. A well-marked specimen of the ringed guillemot (*Uria lachrymans*), was picked up dead, on the beach in Seaford Bay, in December, 1852; and about the same time several specimens of the puffin (*Puffinus arcticus*); and on the 3rd of January, 1853, another puffin was picked up: this last was in full plumage and quite fresh, the others being stale. How came the puffins on the Sussex coast at this time of the year? A specimen of the common thick-knee (*Œdicnemus crepitans*), was picked up alive, but in a dying state, on the 7th of this present February; this also is an unusually early occurrence: this bird not generally appearing before the middle or latter end of April, and departing in the autumn. I have, however, a specimen shot near Newhaven, Sussex, on November 5, 1845; so that the bird possibly occasionally remains throughout the winter.—*Id.*

Occurrence of the Little Auk near Edinburgh.—I beg to inform you that I shot a specimen of the little auk (*Mergulus Alle*) near Cramond, on the Firth of Forth, about four miles from Edinburgh, upon the 14th of February.—*Robert H. Broughton; 21, Inverleith Row, Edinburgh, February* 21, 1853.

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TO ENTOMOLOGISTS.

MR. FOXCROFT begs to return his sincere thanks to the Trustees of the British Museum, the Nobility, Gentry, and Clergymen, and the Members of the Entomological Society, No. 12, Bedford Row, for the patronage he has received for a number of years, and takes the liberty of informing them, that he intends collecting INSECTS during the whole Summer of the present year (1853), in the best localities known in Scotland, commencing on the 1st of May, on Arthur's Seat, continuing along the hills to Glasgow, from Glasgow along the Clyde to Lochlomond through Lass Glen to the head of Lochlomond, over Ben Lomond, passing the side of Ben More, continuing along Glengalloch and Glendochart, by Zick and Killin along the Lochtay, turn to the left over the hills to the Bridge of Balgy, turn to the left bearing north over the hills to Glenlyon, then across the hills to Kinloch, Rannoch, through the Black Fir Woods, up the hills, and continue along the whole range of Grampian Hills, taking Brodrick on Arran over the hill called Goat Fell, and all the highest hills in Scotland.

Mr. F., to enable him to carry out this plan, wishes to raise a sufficient sum by Subscriptions of one Guinea, each Subscriber to be entitled to one Specimen of every species collected during the Season, which will be equally shared in November on his return, and sent to each Subscriber's residence. The boxes in which the Insects will be sent are to be returned or paid for.

Mr. F. hopes, by pursuing this plan of visiting Scotland, to take choice Insects, and new species, and to afford an excellent opportunity to Gentlemen of obtaining what may be wanting for their Cabinets, also for Proprietors of Museums and Collectors of British Insects.

Persons wishing to become Subscribers are requested to send their Subscriptions, by Post Office Order or otherwise, by the second week in April, to Mr. JAMES FOXCROFT, No. 3, Union Yard, 191, Oxford Street, London. Post Office Orders to be made payable at 210, Oxford Street.

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To Contributors.—The Report of the Royal Physical Society of Edinburgh and other papers of interest are unavoidably postponed.

On the 1st of May will be published, Part 1, of a new Edition (the third), of

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